

(c) measuring the rate of cellular respiration of a sample of cells of the algal microorganism from step (b) in the dark with an O₂ electrode;

(d) incubating a sample of the algal microorganism from step (c) in light of saturating intensity of yellow actinic excitation, and measuring the light-saturated rate of O₂ evolution with an O₂ electrode;

(e) inducing reversible hydrogenase through photosynthesis by controlling the light saturated rate of oxygen production from the culture of cells of algal microorganism of step (b) so that it is equal to or less than a rate of cellular respiration; and

[(e)](f) collecting an evolved gas that includes hydrogen.

oxygen deactivates hydrogenase